

## Author Index

- Akubuiro, E.C.  
 —, Verykios, X.E. and Ioannides, T.  
   Influence of carrier doping on catalytic performance of titanium dioxide supported platinum 297
- Alekseev, B.V., see Koltsov, N.I. 189
- Alouche, A., see Barrault, J. 269
- Arnaud, Y., see Hoang, C. 281
- Augustine, S.M., see Tsang, C.M. 45
- Auroux, A., see Gelin, P. 227
- Barrault, J.  
 —, Alouche, A., Paul-Boncour, V., Hilaire, L. and Percheron-Guegan, A.  
   Influence of the support on the catalytic properties of nickel/ceria in carbon monoxide and benzene hydrogenation 269
- Ben Taarit, A., see Gelin, P. 227
- Bond, G.C.  
 —, and Flamerz, S.  
   Structure and reactivity of titania-supported oxides: IV. Characterisation of dried vanadia/titania catalyst precursors 89
- Borg, F., see Holl Y. 57
- Brouwer, W.G.J., see Luys, M.J. 161
- Brückman, K., see Centi, G. 197
- Bugli, G., see Marques da Cruz, G. 131
- Burch, R.  
 —, Squire, G.D. and Tsang, S.C.  
   Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Butt, J.B., see Tsang, C.M. 45
- Centi, G.  
 —, Lopez Nieto, J., Iapalucci, C., Brückman, K. and Serwicka, E.M.  
   Selective oxidation of n-pentane on 12-molybdovanadophosphoric acids 197
- Dalmon, J.A., see Hoang, C. 281
- Delannay, F., see Prada Silvy, R. 113
- Delmon, B., see Prada Silvy, R. 113
- Den Hartog, A.J., see Rek, P.J.M. 213
- Djega-Mariadassou, G., see Marques da Cruz, G. 131
- Dossi, C.  
 —, Fusi, A., Psaro, R. and Zanderighi, G.M.  
   Temperature-programmed decomposition as a probe for the surface reactivity of heterogeneous catalysts. Model system  $\text{Os}_3(\text{CO})_{12}$  supported on silica and alumina 145
- Engelhard, P.A., see Holl Y. 57
- Flamerz, S., see Bond, G.C. 89
- Fusi, A., see Dossi, C. 145
- Garcia, G.L.  
 —, and Resasco, D.E.  
   Effects of the support and the addition of a second promoter on potassium chloride-copper(II) chloride catalysts used in the oxychlorination of methane 251
- Garin, F., see Holl Y. 57
- Gelin, P.  
 —, Auroux, A., Ben Taarit, Y. and Gravelle, P.C.  
   Infrared and calorimetric studies of the adsorption of carbon monoxide on zeolite-supported iridium catalysts 227
- Grange, P. see Prada Silvy, R. 113
- Gravelle, P.C., see Gelin, P. 227
- Grosmangin, J., see Holl Y. 57
- Hilaire, L., see Barrault, J. 269
- Hoang, C.  
 —, Kachaya, Y., Arnaud, Y., Dalmon, J.A. and Teichner, S.J.  
   Characterization of nickel catalysts by chemisorption techniques, X-ray diffraction and magnetic measurements. Effects of support, precursor and hydrogen pretreatment 281
- Hodgson, P.K.G.  
 — and Stewart, N.J.  
   Inorganic salt catalysis in the process for the conversion of alcohols/alkylphenols into ethoxychloride surfactant intermediates 313
- Holl, Y.  
 —, Garin, F., Maire, G., Borg, F., Engelhard, P.A. and Grosmangin, J.  
   Effect of pretreatment conditions on hydrocarbon reactions on alumina-supported molybdenum catalysts 57

- Iapalucci, C., see Centi, G. 197
- Iizuka, T., see Inoue, T. 1
- Inoue, T.
- , Iizuka, T. and Tanabe, K.  
Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Ioannides, T., see Akubuiro, E.C. 297
- Kachaya, Y., see Hoang, C. 281
- Koltsov, N.I.
- and Alekseev, B.V.  
Effectiveness of reaction proceeding with degree kinetics in a plate catalyst grain 189
- Kuriacose, J.C., see Shanthi, K. 241
- Lopez Nieto, J., see Centi, G. 197
- Luy, J.C., see Yori, J.C. 103
- Luys, M.J.
- , Van Oeffelt, P.H., Brouwer, W.G.J., Pijpers, A.P. and Scholten, J.J.F.  
Surface and sub-surface oxidation of copper and supported copper catalysts by nitrous oxide 161
- Maire, G., see Holl, Y. 57
- Marques da Cruz, G.
- , Bugli, G. and Djega-Mariadassou, G.  
Cyclohexene hydrogenation on rhodium catalysts in the gas phase. Kinetics of the reaction and origin, mechanism and kinetics of the deactivation process 131
- Martens, J.H.A.
- and Prins, R.  
Influence of pH on the preparation of monometallic rhodium and platinum, and bimetallic rhodium-platinum catalysts supported on  $\gamma$ -alumina 31
- Molhoek, P., see Scheffer, B. 11
- Moulijn, J.A., see Scheffer, B. 11
- Parera, J.M., see Yori, J.C. 103
- Paul-Boncour, V. see Barrault, J. 269
- Percheron-Guegan, A. see Barrault, J. 269
- Pijper, A.P., see Luys, M.J. 161
- Pillai, C.N., see Shanthi, K. 241
- Ponec, V., see Rek, P.J.M. 213
- Prada Silvy, R.
- , Grange, P., Delannay, F. and Delmon, B.  
Influence of the nature of the activating molecules on the catalytic activity of cobalt-molybdenum/alumina catalysts 113
- Prins, R., see Martens, J.H.A. 31
- Psaro, R., see Dossi, C. 145
- Rek, P.J.M.
- , Den Hartog, A.J. and Ponec, V.  
Effect of chlorine and sulphur on the selectivity of supported platinum-rhenium catalysts in reactions of n-hexane 213
- Resasco, D.E., see Garcia, C.L. 251
- Sachtler, W.M.H., see Tsang, C.M. 45
- Scheffer, B.
- , Molhoek, P. and Moulijn, J.A.  
Temperature-programmed reduction of  $\text{NiO-WO}_3/\text{Al}_2\text{O}_3$  hydrodesulphurization catalysts 11
- Scholten, J.J.F., see Luys, M.J. 161
- Serwicka, E.M., see Centi, G. 197
- Shanthi, K.
- , Pillai, C.N. and Kuriacose, J.C.  
Hydrodenitrogenation of simple aromatic amines on molybdena catalysts 241
- Squire, G.D., see Burch, R. 69
- Tanabe, K., see Inoue, T. 1
- Teichner, S.J., see Hoang, C. 281
- Tsang, C.M.
- , Augustine, S.M., Butt, J.B. and Sachtler, W.M.H.  
Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Tsang, S.C., see Burch, R. 69
- Van Oeffelt, P.H., see Luys, M.J. 161
- Verykios, X.E., see Akubuiro, E.C. 297
- Yori, J.C.
- , Luy, J.C. and Parera, J.M.  
Deactivation of H-mordenite and  $\text{ZrO}_2/\text{SO}_4^{2-}$  during n-butane isomerization 103
- Zanderighi, G.M., see Dossi, C. 145

## Subject Index

- Adsorption  
 Surface and sub-surface oxidation of copper and supported copper catalysts by nitrous oxide 161
- Adsorption  
 Characterization of nickel catalysts by chemisorption techniques, X-ray diffraction and magnetic measurements. Effects of support, precursor and hydrogen pretreatment 281
- Alkaline earth metal salts  
 Inorganic salt catalysis in the process for the conversion of alcohols/alkylphenols into ethoxychloride surfactant intermediates 313
- Amines  
 Hydrodenitrogenation of simple aromatic amines on molybdena catalysts 241
- Ammonia synthesis  
 Hydrodenitrogenation of simple aromatic amines on molybdena catalysts 241
- Benzene hydrogenation  
 Influence of the support on the catalytic properties of nickel/ceria in carbon monoxide and benzene hydrogenation 269
- Butane isomerization  
 Deactivation of H-mordenite and  $\text{ZrO}_2/\text{SO}_4^{2-}$  during n-butane isomerization 103
- Calorimetry  
 Infrared and calorimetric studies of the adsorption of carbon monoxide on zeolite-supported iridium catalysts 227
- Carbon dioxide hydrogenation  
 Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Carbon monoxide adsorption  
 Infrared and calorimetric studies of the adsorption of carbon monoxide on zeolite-supported iridium catalysts 227
- Carbon monoxide hydrogenation  
 Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Carbon monoxide hydrogenation  
 Influence of the support on the catalytic properties of nickel/ceria in carbon monoxide and benzene hydrogenation 269
- Carbon monoxide hydrogenation  
 Influence of carrier doping on catalytic performance of titanium dioxide supported platinum 297
- Catalyst characterization (carbon monoxide adsorption)  
 Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Catalyst characterization (gravimetry, MS, XPS-AES)  
 Surface and sub-surface oxidation of copper and supported copper catalysts by nitrous oxide 161
- Catalyst characterization (spectroscopic techniques)  
 Influence of pH on the preparation of monometallic rhodium and platinum, and bimetallic rhodium-platinum catalysts supported on  $\gamma$ -alumina 31
- Catalyst characterization (spectroscopic techniques)  
 Selective oxidation of n-pentane on 12-molybdovanadophosphoric acids 197
- Catalyst characterization (spectroscopic techniques)  
 Influence of the support on the catalytic properties of nickel/ceria in carbon monoxide and benzene hydrogenation 269
- Catalyst characterization (spectroscopic techniques)  
 Characterization of nickel catalysts by chemisorption techniques, X-ray diffraction and magnetic measurements. Effects of support, precursor and hydrogen pretreatment 281
- Catalyst characterization (temperature-programmed techniques)  
 Temperature-programmed reduction of hydrodesulphurization catalysts 11
- Catalyst characterization (temperature-programmed techniques)  
 Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Catalyst characterization (temperature-programmed techniques)  
 Cyclohexane hydrogenation on rhodium

- catalysts in the gas phase. Kinetics of the reaction and origin, mechanism and kinetics of the deactivation process 131
- Catalyst characterization (temperature-programmed techniques)
- Temperature-programmed decomposition as a probe for the surface reactivity of heterogeneous catalysts. Model system  $\text{Os}_3(\text{CO})_{12}$  supported on silica and alumina 145
- Catalyst characterization (temperature-programmed techniques)
- Influence of the support on the catalytic properties of nickel/ceria in carbon monoxide and benzene hydrogenation 269
- Catalyst characterization (TPR, XPS)
- Structure and reactivity of titania-supported oxides: IV. Characterisation of dried vanadia/titania catalyst precursors 89
- Catalyst preparation (evaporation)
- Temperature-programmed reduction of hydrodesulphurization catalysts 11
- Catalyst preparation (vapour deposition)
- Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Catalyst preparation (wet impregnation)
- Influence of pH on the preparation of monometallic rhodium and platinum, and bimetallic rhodium-platinum catalysts supported on  $\gamma$ -alumina 31
- Catalyst preparation (wet impregnation)
- Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Catalyst preparation (wet impregnation)
- Hydrodenitrogenation of simple aromatic amines on molybdena catalysts 241
- Catalyst preparation (wet impregnation)
- Effects of the support and the addition of a second promoter on potassium chloride-copper(II) chloride catalysts used in the oxychlorination of methane 251
- Chlorine
- Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Chlorine
- Effect of chlorine and sulphur on the selectivity of supported platinum-rhenium catalysts in reactions of n-hexane 213
- Cobalt-molybdenum/alumina
- Influence of the nature of the activating molecules on the catalytic activity of cobalt-molybdenum/alumina catalysts 113
- Coke formation
- Deactivation of H-mordenite and  $\text{ZrO}_2/\text{SO}_4^{2-}$  during n-butane isomerization 103
- Copper/silica
- Surface and sub-surface oxidation of copper and supported copper catalysts by nitrous oxide 161
- Cyclohexane hydrogenation
- Cyclohexane hydrogenation on rhodium catalysts in the gas phase. Kinetics of the reaction and origin, mechanism and kinetics of the deactivation process 131
- Deactivation
- Deactivation of H-mordenite and  $\text{ZrO}_2/\text{SO}_4^{2-}$  during n-butane isomerization 103
- Deactivation
- Cyclohexane hydrogenation on rhodium catalysts in the gas phase. Kinetics of the reaction and origin, mechanism and kinetics of the deactivation process 131
- Dead zone
- Effectiveness of reaction proceeding with degree kinetics in a plate catalyst grain 189
- Effectiveness factor
- Effectiveness of reaction proceeding with degree kinetics in a plate catalyst grain 189
- Ethene synthesis
- Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Ethoxychloride
- Inorganic salt catalysis in the process for the conversion of alcohols/alkylphenols into ethoxychloride surfactant intermediates 313
- Hydrodenitrogenation
- Hydrodenitrogenation of simple aromatic amines on molybdena catalysts 241
- Hydrodesulphurization
- Temperature-programmed reduction of  $\text{NiO-WO}_3/\text{Al}_2\text{O}_3$  hydrodesulphurization catalysts 11
- Hydrodesulphurization



- Influence of the nature of the activating molecules on the catalytic activity of cobalt-molybdenum/alumina catalysts 113
- Hydrogenolysis  
Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Infrared spectroscopy  
Infrared and calorimetric studies of the adsorption of carbon monoxide on zeolite-supported iridium catalysts 227
- Inorganic salt  
Inorganic salt catalysis in the process for the conversion of alcohols/alkylphenols into ethoxychloride surfactant intermediates 313
- Iridium/NaY zeolite  
Infrared and calorimetric studies of the adsorption of carbon monoxide on zeolite-supported iridium catalysts 227
- Kinetics  
Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Kinetics  
Cyclohexane hydrogenation on rhodium catalysts in the gas phase. Kinetics of the reaction and origin, mechanism and kinetics of the deactivation process 131
- Kinetics  
Surface and sub-surface oxidation of copper and supported copper catalysts by nitrous oxide 161
- Kinetics  
Effectiveness of reaction proceeding with degree kinetics in a plate catalyst grain 189
- Kinetics  
Influence of carrier doping on catalytic performance of titanium dioxide supported platinum 297
- Magnesium oxide  
Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Manganese oxide  
Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Methane oxychlorination  
Effects of the support and the addition of a second promoter on potassium chloride-copper(II) chloride catalysts used in the oxychlorination of methane 251
- Methylpentane cracking  
Effect of pretreatment conditions on hydrocarbon reactions on alumina-supported molybdenum catalysts 57
- Methylpentane isomerization  
Effect of pretreatment conditions on hydrocarbon reactions on alumina-supported molybdenum catalysts 57
- Molybdenum sulphide/alumina  
Hydrodenitrogenation of simple aromatic amines on molybdena catalysts 241
- Molybdenum/alumina  
Effect of pretreatment conditions on hydrocarbon reactions on alumina-supported molybdenum catalysts 57
- Molybdovanadophosphoric acids  
Selective oxidation of n-pentane on 12-molybdovanadophosphoric acids 197
- Mordenite  
Deactivation of H-mordenite and  $\text{ZrO}_2/\text{SO}_4^{2-}$  during n-butane isomerization 103
- Nickel oxide-tungsten oxide/alumina  
Temperature-programmed reduction of hydrodesulphurization catalysts 11
- Nickel/alumina  
Characterization of nickel catalysts by chemisorption techniques, X-ray diffraction and magnetic measurements. Effects of support, precursor and hydrogen pretreatment 281
- Nickel/ceria  
Influence of the support on the catalytic properties of nickel/ceria in carbon monoxide and benzene hydrogenation 269
- Nickel/silica  
Characterization of nickel catalysts by chemisorption techniques, X-ray diffraction and magnetic measurements. Effects of support, precursor and hydrogen pretreatment 281
- Nickel/titania  
Characterization of nickel catalysts by chemisorption techniques, X-ray diffraction and magnetic measurements. Effects

- of support, precursor and hydrogen pretreatment 281
- Nitrous oxide decomposition
  - Surface and sub-surface oxidation of copper and supported copper catalysts by nitrous oxide 161
- Osmium/alumina
  - Temperature-programmed decomposition as a probe for the surface reactivity of heterogeneous catalysts. Model system  $\text{Os}_3(\text{CO})_{12}$  supported on silica and alumina 145
- Osmium/silica
  - Temperature-programmed decomposition as a probe for the surface reactivity of heterogeneous catalysts. Model system  $\text{Os}_3(\text{CO})_{12}$  supported on silica and alumina 145
- Oxidative coupling
  - Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Pentane oxidation
  - Selective oxidation of n-pentane on 12-molybdovanadophosphoric acids 197
- pH influence
  - Influence of pH on the preparation of monometallic rhodium and platinum, and bimetallic rhodium-platinum catalysts supported on  $\gamma$ -alumina 31
- Platinum-rhenium
  - Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Platinum-rhenium/alumina
  - Effect of chlorine and sulphur on the selectivity of supported platinum-rhenium catalysts in reactions of n-hexane 213
- Platinum/alumina
  - Influence of pH on the preparation of monometallic rhodium and platinum, and bimetallic rhodium-platinum catalysts supported on  $\gamma$ -alumina 31
- Platinum/titanium
  - Influence of carrier doping on catalytic performance of titanium dioxide supported platinum 297
- Pretreatment
  - Characterization of nickel catalysts by chemisorption techniques, X-ray diffraction and magnetic measurements. Effects of support, precursor and hydrogen pretreatment 281
- Pretreatment conditions
  - Effect of pretreatment conditions on hydrocarbon reactions on alumina-supported molybdenum catalysts 57
- Rhodium
  - Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Rhodium
  - Cyclohexane hydrogenation on rhodium catalysts in the gas phase. Kinetics of the reaction and origin, mechanism and kinetics of the deactivation process 131
- Rhodium-platinum/alumina
  - Influence of pH on the preparation of monometallic rhodium and platinum, and bimetallic rhodium-platinum catalysts supported on  $\gamma$ -alumina 31
- Rhodium/alumina
  - Influence of pH on the preparation of monometallic rhodium and platinum, and bimetallic rhodium-platinum catalysts supported on  $\gamma$ -alumina 31
- Samarium oxide
  - Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Second promoter
  - Effects of the support and the addition of a second promoter on potassium chloride-copper (II) chloride catalysts under in the oxychlorination of methane 251
- Selective oxidation
  - Selective oxidation of n-pentane on 12-molybdovanadophosphoric acids 197
- Selectivity (ammonia)
  - Hydrodenitrogenation of simple aromatic amines on molybdena catalysts 241
- Selectivity (ethene)
  - Role of chlorine in improving selectivity in the oxidative coupling of methane to ethylene 69
- Selectivity (hexane isomerization-cyclization)
  - Effect of chlorine and sulphur on the selectivity of supported platinum-rhenium catalysts in reactions of n-hexane 213
- Selectivity (isomerization-cracking)

- Effect of pretreatment conditions on hydrocarbon reactions on alumina-supported molybdenum catalysts 57
- Selectivity (methane)  
Hydrogenation of carbon dioxide and carbon monoxide over supported rhodium catalysts under 10 bar pressure 1
- Selectivity (maleic anhydride)  
Selective oxidation of n-pentane on 12-molybdovanadophosphoric acids 197
- Strong metal-support interaction  
Influence of carrier doping on catalytic performance of titanium dioxide supported platinum 297
- Sulphiding agents  
Influence of the nature of the activating molecules on the catalytic activity of cobalt-molybdenum/alumina catalysts 113
- Sulphur  
Effect of chlorine and sulphur on the selectivity of supported platinum-rhenium catalysts in reactions of n-hexane 213
- Surface reactivity  
Temperature-programmed decomposition as a probe for the surface reactivity of heterogeneous catalysts. Model system  $\text{Os}_3(\text{CO})_{12}$  supported on silica and alumina 145
- Surfactants  
Inorganic salt catalysis in the process for the conversion of alcohols/alkylphenols into ethoxychloride surfactant intermediates 313
- Syngas conversion  
Influence of the support on the catalytic properties of nickel/ceria in carbon monoxide and benzene hydrogenation 269
- Temperature-programmed decomposition  
Temperature-programmed decomposition as a probe for the surface reactivity of heterogeneous catalysts. Model system  $\text{Os}_3(\text{CO})_{12}$  supported on silica and alumina 145
- Temperature-programmed desorption  
Cyclohexane hydrogenation on rhodium catalysts in the gas phase. Kinetics of the reaction and origin, mechanism and kinetics of the deactivation process 131
- Temperature-programmed reduction  
Temperature-programmed reduction of hydrodesulphurization catalysts 11
- Temperature-programmed reduction  
Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Temperature-programmed reduction  
Structure and reactivity of titania-supported oxides: IV. Characterisation of dried vanadia/titania catalyst precursors 89
- Temperature-programmed reductive decomposition  
Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Thiele parameter  
Effectiveness of reaction proceeding with degree kinetics in a plate catalyst grain 189
- Vanadia/titania  
Structure and reactivity of titania-supported oxides: IV. Characterisation of dried vanadia/titania catalyst precursors 89
- Water-gas shift reaction  
Influence of carrier doping on catalytic performance of titanium dioxide supported platinum 297
- X-ray photoelectron spectroscopy  
Structure and reactivity of titania-supported oxides: IV. Characterisation of dried vanadia/titania catalyst precursors 89
- Zeolites  
Synthesis and characterization of bimetallic clusters prepared by sublimation of  $\text{Re}_2(\text{CO})_{10}$  onto Pt/NaY 45
- Zeolites  
Infrared and calorimetric studies of the adsorption of carbon monoxide on zeolite-supported iridium catalysts 227
- Zirconium oxide-sulphate  
Deactivation of H-mordenite and  $\text{ZrO}_2/\text{SO}_4^{2-}$  during n-butane isomerization 103

